Laboratory Response to Biological Terrorism

WHAT IS THE PUBLIC HEALTH PROBLEM

- Because most bioterrorist agents rarely cause naturally occurring disease, the enhancement of national capacity to rapidly identify these agents remains critical, both at CDC and state and local public health laboratories.
- As was learned during the bioterrorist attack in October 2001, early detection and identification of disease agents is essential in making decisions regarding patient management, guiding epidemiologic investigations, assisting law enforcement, and deploying health care resources.

WHAT HAS CDC ACCOMPLISHED?

CDC has the responsibility to provide the Nation with a laboratory system that delivers accurate and timely identification of any agent causing a public health threat, including both naturally occurring diseases and organisms that could be used in a biologic terrorism attack.

CDC, in collaboration with the Association of Public Health Laboratories and the Federal Bureau of Investigation (FBI), established the Laboratory Response Network (LRN) to develop federal, state, and local public health laboratory capacity to respond to bioterrorism events. This network is a strategic partnership designed to link front-line clinical microbiology laboratories in hospitals and other institutions to state and local public health laboratories and supports advanced capacities of public health, military, veterinary, agricultural, water and food-testing laboratories at the federal level. This partnership operates both domestically and internationally.

Depending on a laboratory's ability to handle dangerous pathogens, the laboratory is designated either as a reference laboratory or a sentinel laboratory. Reference laboratories are the core, advanced technology laboratories that can provide confirmatory testing for agents in biosafety levels 3 and 4. This includes the centralized, state-of-the-art national reference laboratory located at CDC to rapidly and accurately identify any agent used in a biological terrorism attack (the Rapid Response and Advanced Technology Laboratory [RRAT]). Reference laboratories have access to a secure Website which allows for timely reporting and monitoring. These reference laboratories, which total about 120 laboratories, can access on-line agent protocols, share information, and order reagents. The estimated 25,000 sentinel laboratories play an important role in reporting possible outbreaks and ensure that specimens are sent to the appropriate reference laboratory for confirmation.

CDC, in collaboration with federal, state, and local partners, has identified the biological agents likely to be involved in a terrorist attack and is developing scientifically validated rapid assays to assist in detection of these agents.

WHAT ARE THE NEXT STEPS?

- Continue to enhance capacity of laboratories to rapidly detect and identify agents likely to be used in a terrorist attack and provide crucial information to health professionals.
- Expand training and technical assistance to state and local public health laboratories to ensure they will be better prepared to respond in the event of a terrorist attack.
- Increase number of laboratory members in appropriate sentinel and reference laboratory capacities.
- Increase number of available validated rapid assays.

For more information on this and other CDC programs, visit www.cdc.gov/programs. *February 2003*